

NREL/ORNL/DOE Distributed Power System Integration R&D



DR Certification Laboratory Pilot, Accreditation Plan and Interconnection Agreement Handbook


Quarterly Review Meeting

July 25, 2001 Washington, DC

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EPRI PEAC

DR Certification & Accreditation Project Overview

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- This project will define a certification and lab accreditation process, demonstrate their application in a pilot, and then draft an implementation plan based on lesson-learned.
 - 3-year Deliverables include:
 - certification and labeling criteria
 - test protocols and test results
 - handbook on interconnection agreements
 - web-based information hotline and technical training materials

Base Year Deliverables



- DR Certification Web-Based Beta Site (10/01)
- Draft Certification and Accreditation Plan (1/02)
- Interconnection Handbook Outline (3/02)
- Annual Technical Status Report (5/02)

Task 1 - Establish Preliminary Requirements for DR Certification

Plan and Milestones

- Organize stakeholders
 - Meet at Distributed Power 2001 Conference?
 - » September 23, 2001 – Chicago, Illinois
- Obtain industry input and review of draft certification criteria – coordination with related standards (8/01)
- Roadmap for certification (8/15)
- Research existing interconnect agreements (9/01)
- Design web-based information resource (10/01)

Approach for Road Map to Certification

- Four Organizational Entities:
(1) Manufacturers, (2) One or More Testing Laboratories, (3) Laboratory Accreditation Body, and (4) Certification Body
- Document (DR-1) – Handbook on Interconnection Agreement and third party Certification
- Document (DR-2) -- Testing Requirements/Protocols for Certification and Labeling Program of DR Systems
- Document (DR-3) -- Criteria for Accreditation of Laboratory Engaged in Testing DR Systems

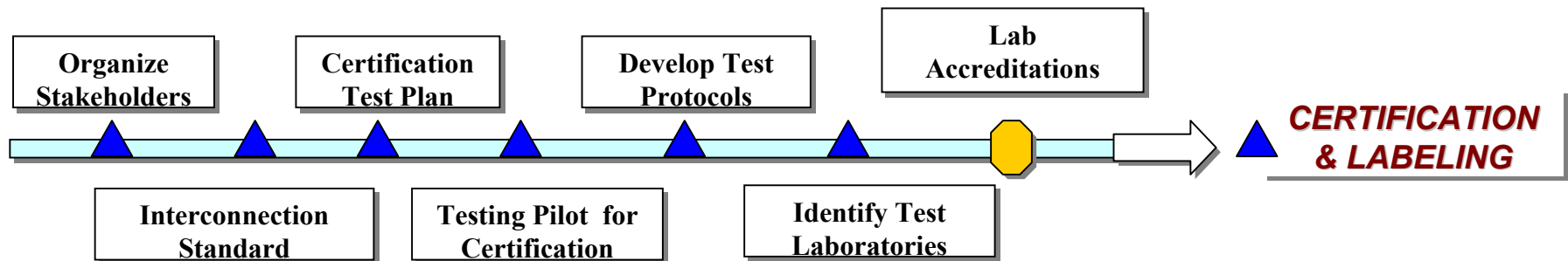
Road Map to Certification cont.



- DR-1, DR-2, and DR-3 will Build on Relevant Existing Certification Programs as a Basis from Industry and from National and International Perspectives.
- They are intended to be used for:
 - Building the Foundation for a Certification Program Applied to DR Systems
 - Defining Customary Requirements for DR System Certification and Accreditation Programs
 - Aid Organizations in Preparation for Establishing Accredited Laboratories

Related activities as of 7/2001

- Drafted a white paper on need for certification of of DR as “grid compatible.”
- Path to certification and labeling

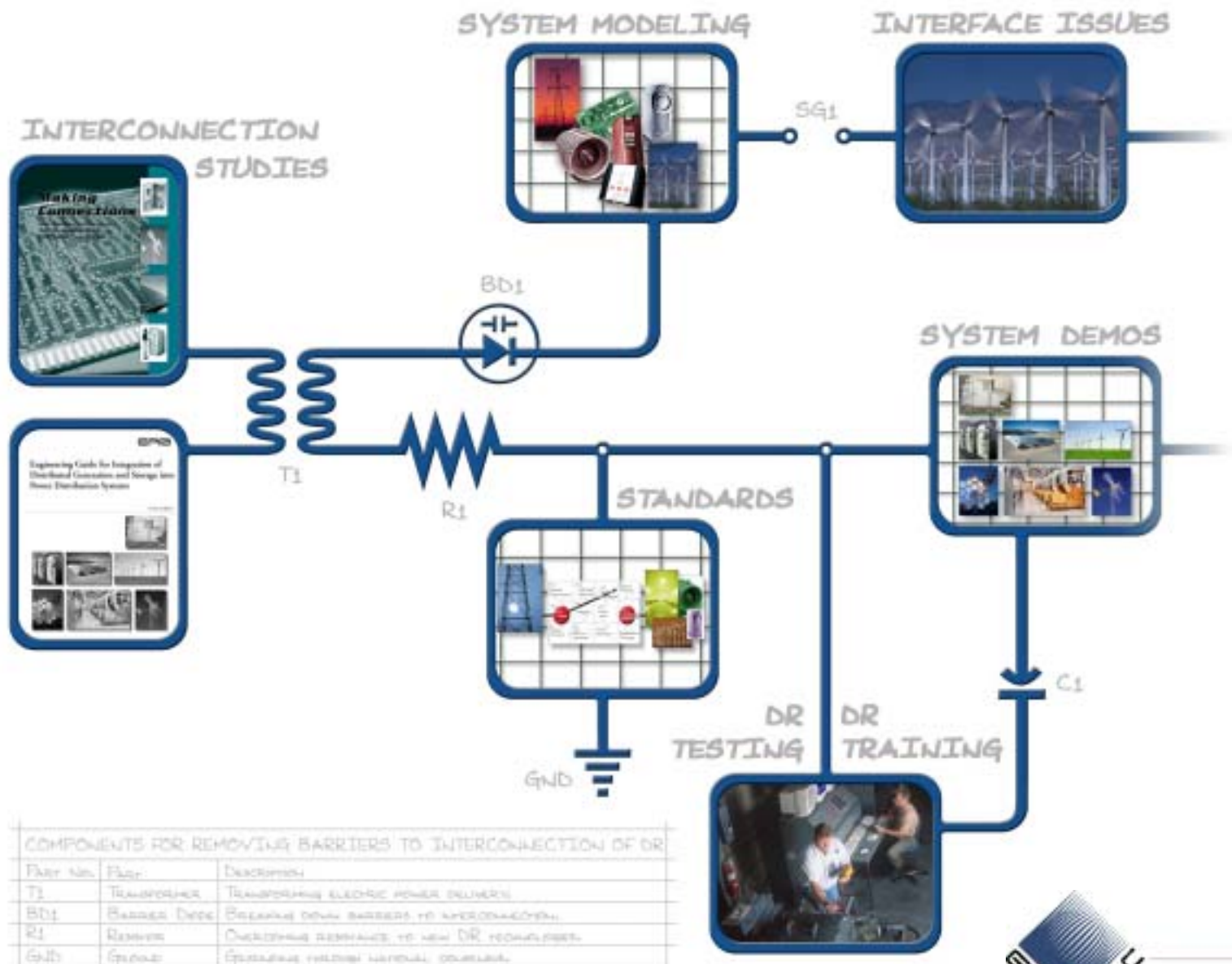


- Began testing effort “completing the circuit” to address interconnection issues with systematic testing and evaluation.

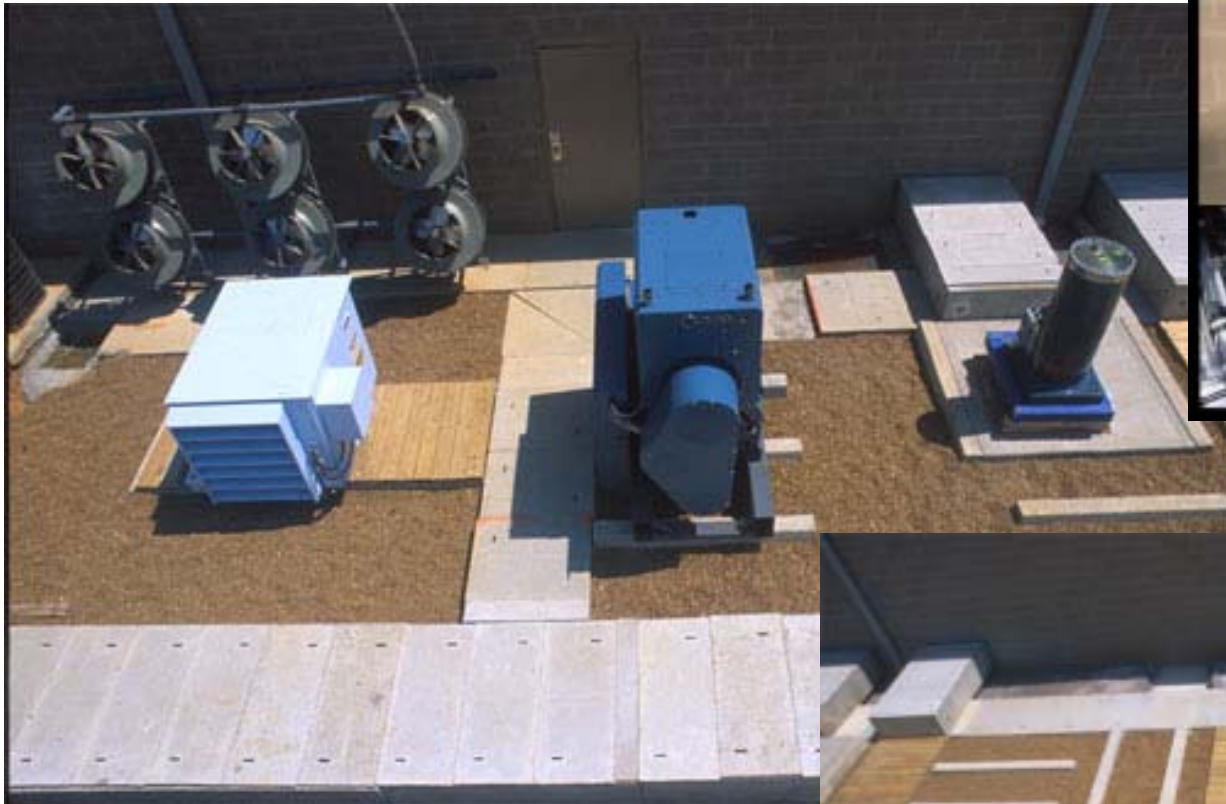
Completing the Circuit

DOE

EPRI



Distributed Resources Park – Knoxville, TN



Distributed Resources Park – Hands-on testing

- Dynamic Performance and interactions lab
- Electro- Magnetic Compatibility
- Surge Test
- Power quality and reliability studies



Certification of Grid-Connected Distributed Resources

- Objective – pilot first units thru a certification regiment, set up lab procedures, involve manufacturers.
- Scope – one or two units to pilot, joint with DOE, NREL, include handbook and web site.
- Schedule –project in three phases, approximately 3 years, start May 2001

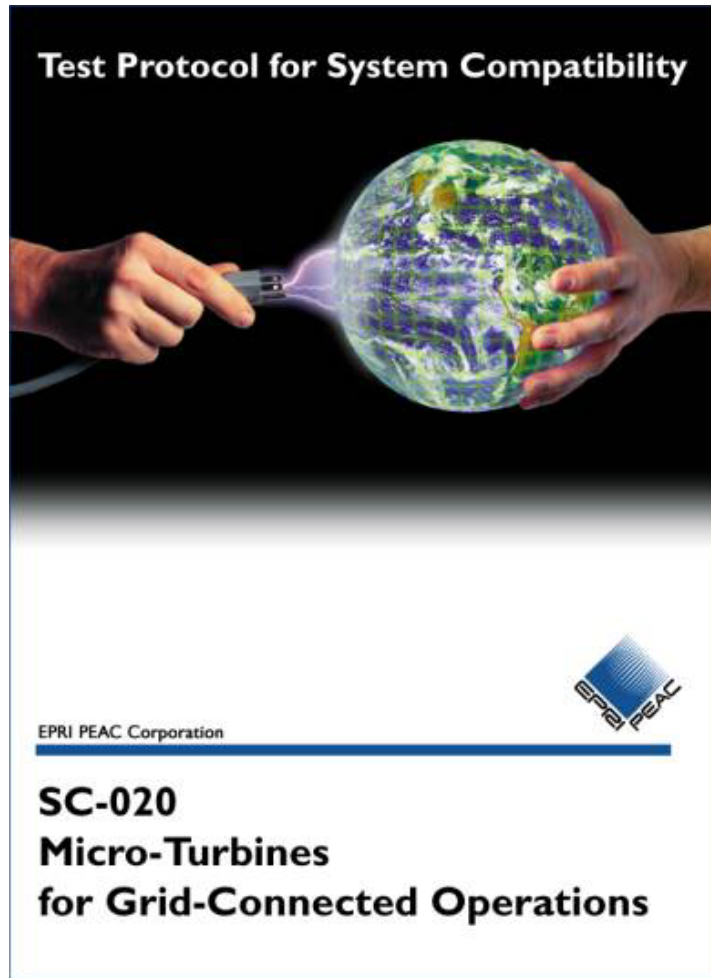


Laboratory Trials of Proposed IEEE P1547

- Objective – test drive 1547, gain experience, validate applications, identify issues and solve problems
- Scope – conduct coordinated lab and field tests on machines (induction, synchronous) and inverters, involves several labs and field sites
- Schedule – Mar. to Oct. 2001



Develop application specific test protocols and conduct tests



Required Steps

- Define a baseline electrical environment
- Create performance criteria and test methods
- Characterize DER equipment (with utilities' and manufacturers' participation)
- Develop application-specific test protocols for various categories of DER

Plans for next Quarter



- Begin Task 2
- Compile and report on emerging interconnect agreements (11/01)
Note: do other participants/govt. labs have existing data bases?
- Develop and interconnection handbook outline and comments (3/02)
Note: coordinate with NRECA project